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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NGUYEN, TAM M

ART UNIT

PAPER NUMBER

1764

DATE MAILED: 05/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/729,215

Applicant(s)

O'REAR ET AL.

Examiner

Tam M. Nguyen

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 16-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,5,7,9, 14
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-15 and 20, drawn to a process for preparing lube base stocks, classified in class 208, subclass 33+.
- II. Claims 16-19, drawn to a lube base stock composition, classified in class 208, subclass 18.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the product as claimed can be made by another and materially different process such as a process for producing lube base stock without using a solvent dewaxing or the lube base stock is produced by hydrocracking.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

Art Unit: 1764

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The expression "a Solvent Dewaxing" in lines 2 and 3 of claim 3 renders the claim indefinite because it is unclear if the expression is the same as the Solvent Dewaxing expression in step b) of claim 1. If the expression in lines 2 and 3 of claim 3 is not the same as the expression in step b) of claim 1, it is unclear if the further step in claim 3 occurs before or after step b) of claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stem (4,622,130).

Stem discloses a process for producing a lubricating oil by feeding a feedstock into a separation zone to produce a least a first fraction (e.g., lines 51, 49, or 47) which is fed into a

Art Unit: 1764

solvent dewaxing zone to produce a lubricant product and at least a second fraction (e.g., lines 95 or 97) which is fed into a catalytic dewaxing zone. (See figure 1)

Claim 1:

Stem does not disclose that the first fraction has a 95% point above 1150° F as measured by ASTM D2887 and the second fraction has a 95% point below 1150° F. However, it appears that the boiling point of the each fraction in the process of Stem is not important (see col. 7, lines 43-49; col. 8, lines 35-42; col. 9, lines 19-32 and 62-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Stem by separating the feedstock into at least two fractions having the claimed characteristics because one of skill in the art would separate the feedstock into different fractions including the claimed fractions when one desires to produce lubricating product having the claimed characteristics.

Claim 1:

Stem does not specifically disclose that lube base stock produced from the solvent dewaxing zone has a VI (viscosity index) of greater than or equal to 115. However, the fractions that are fed into the solvent dewaxing zones have a HVI of from 250-600 (see col. 5, lines 9-21). Therefore, it would be expected that the lube oil produced from the solvent dewaxing zones of Stem would have a VI as claimed.

Claim 1:

Since the second fraction is lighter than the first fraction, it would be expected that the second lube base stock would have a viscosity less than the viscosity of the first fraction.

Art Unit: 1764

Claim 2:

The feedstock can be hydrotreated before passing to the dewaxing steps. (See col. 8, lines 11-19)

Claim 3:

The first fraction is first passed into the solvent dewaxing zone and then passed into a catalytic dewaxing zone. (See figure 1)

Claim 8:

At least a portion of one of the hydrocarbon fractions is derived from distillates from crude oil. (See figure 1).

Claims 4-7, 9-13 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stem (4,622,130) in view of Santilli et al. (5,282,958).

The process of Stem is as disclosed above.

Claims 4-7 and 20:

Stem does not disclose that catalytic dewaxing step is a complete hydroisomerization dewaxing process.

Santilli discloses a process for dewaxing a hydrocarbon feed to produce a dewaxed lube oil by employing a complete (96 % conversion) catalytic hydroisomerization dewaxing. (See abstract)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Stem by using the hydroisomerization dewaxing process of Santilli because the process of Santilli is effective to convert a relative high pour point oil to a relative low pour point oil with a high viscosity index. (See col. 3, lines 14-17)

Art Unit: 1764

Claim 9:

Stem does not disclose that at least portion of one of the hydrocarbon fraction is derived from Fischer-Tropsch (FT) synthesis products.

Santilli discloses that the feedstock can be a product from a FT process. (See col. 7, lines 40-48).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Stem by employing at least portion of one of the hydrocarbon fraction derived from (FT) synthesis products of Santilli because it would be expected that the results would be the same or similar when using a fraction from a FT process in the process of Stem because any waxy hydrocarbon feedstock including the claimed FT products can be used in the process of Stem.

Claims 10-13 and 20:

Stem does not disclose that the lube base stocks have a pour point/cloud spread, a pour point, a VI, and sulfur content as claimed. However, the modified process of Stem is similar to the claimed process in terms of feedstock, solvent dewaxing, and catalytic dewaxing. Therefore, it would be expected that the lubes base stocks of the modified process of Stem would have the claimed characteristics.

Claim 20:

Stem does not disclose step of measuring the pour-cloud spread of the dewaxed lube base stocks. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process Stem by including step of measuring the

Art Unit: 1764

pour-cloud spread of the dewaxed lube base stocks because one of skill in the art would measure the pour-cloud spread of the dewaxed lube base stocks if one desires.

Claim 20:

Stem does not specifically step of modifying the lube oil to achieve a lube oil having pour-loud spreads of less than 30° C by solvent dewaxing the lube base stocks to produce a product having the claimed characteristics. However, Stem discloses that the distillates are treated with solvent dewaxing before catalytic dewaxing (see figure 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified process of Stem by treating the distillates with catalytic dewaxing first (step 1) and then treating the distillates with solvent dewaxing (step 2) because the purpose of both steps are to remove wax from the distillates. Therefore, it would be expected that the results would be the same or similar when treating the distillates with catalytic dewaxing first and then treating the distillates with solvent dewaxing. Consequently, the modified process of Stem is similar to the claimed process in terms of feedstock, solvent dewaxing, and catalytic dewaxing. Therefore, it would be expected that the lube base stocks of the modified process of Stem would have the claimed characteristics.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stem (4,622,130) and Santilli et al. (5,282,958) further in view of Francisco et al. (5,898,023)

The process of Stem is as discussed above.

Claims 14 and 15:

Stem does not disclose that the lube base stock is combined with one or more additives.

Art Unit: 1764

Francisco discloses a process of combining additives (e.g., antioxidants) with a lube oil.
(See abstract)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Stem by adding the Francisco additives to the lube oil because the additives would inhibit lubricant viscosity increase and dispersancy decrease. (See Francisco; col. 1, lines 58-65)

Respond to Remarks

The argument that since the grouped claims are inter-twined, it would necessitate a search Group II along with Group I is noted. However, the argument is not persuasive because Group II is a product-by-process claim. The patentability is based on the product and does not depend on its method of production. A **lube base stock** as claimed in claim 16 can be produced by different processes other than the process of claim 1. For example, a hydrocracking process, or a dewaxing process in which it does not use solvent dewaxing. Therefore, the search of Group II would not necessitate a search for Group I. The requirement is still deemed proper.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tam M. Nguyen whose telephone number is (703) 305-7715. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone numbers for the

Art Unit: 1764

organization where this application or proceeding is assigned are (703) 305-5408 for regular communications and (703) 305-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink, appearing to read 'Tam', is written over a horizontal line.

Tam M. Nguyen
Examiner
Art Unit 1764

TN
May 16, 2003